OIPE JC98 FEB 11 2004 PAT & TRADEMARK OFFICE

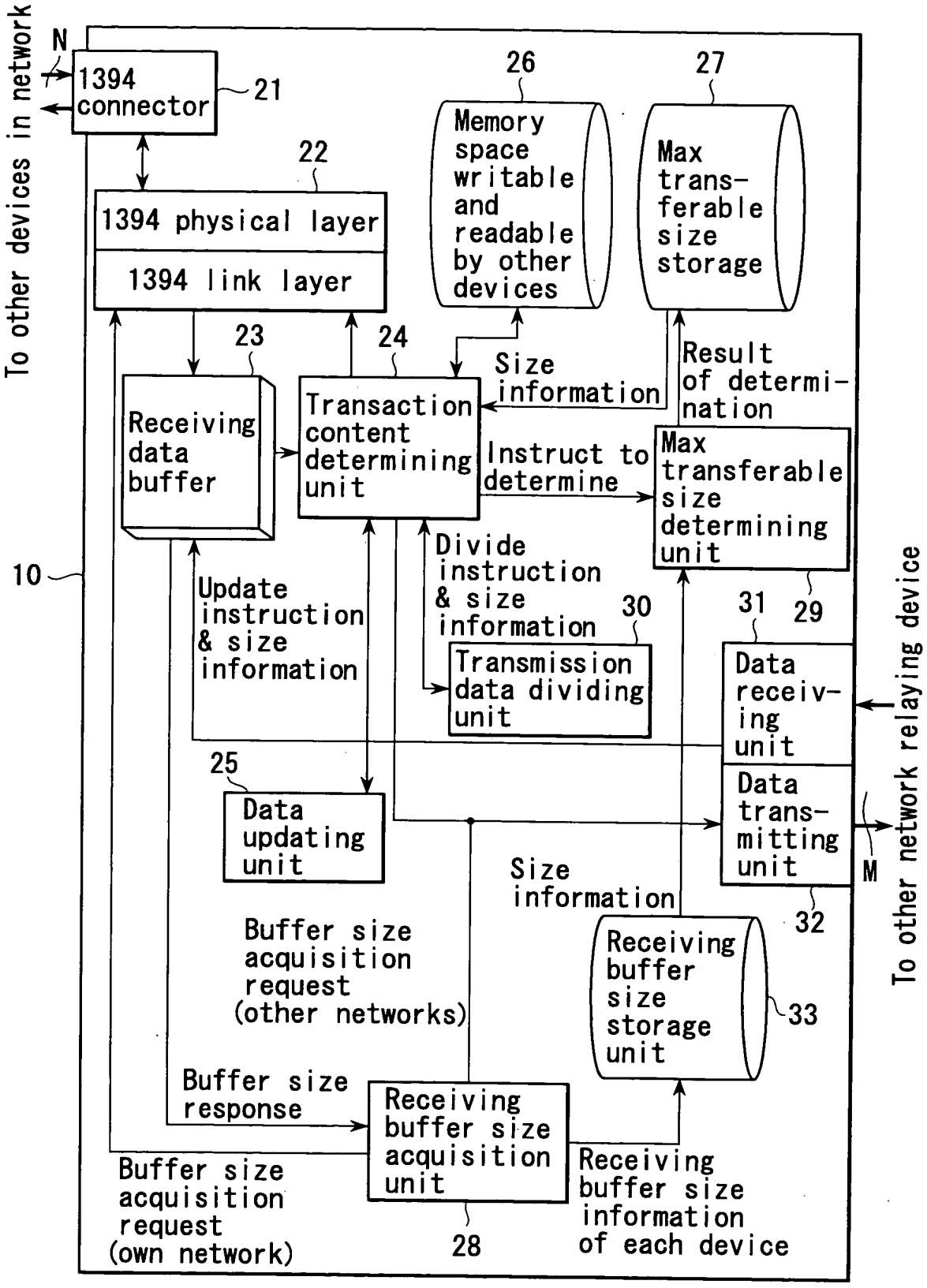

FIG. 1

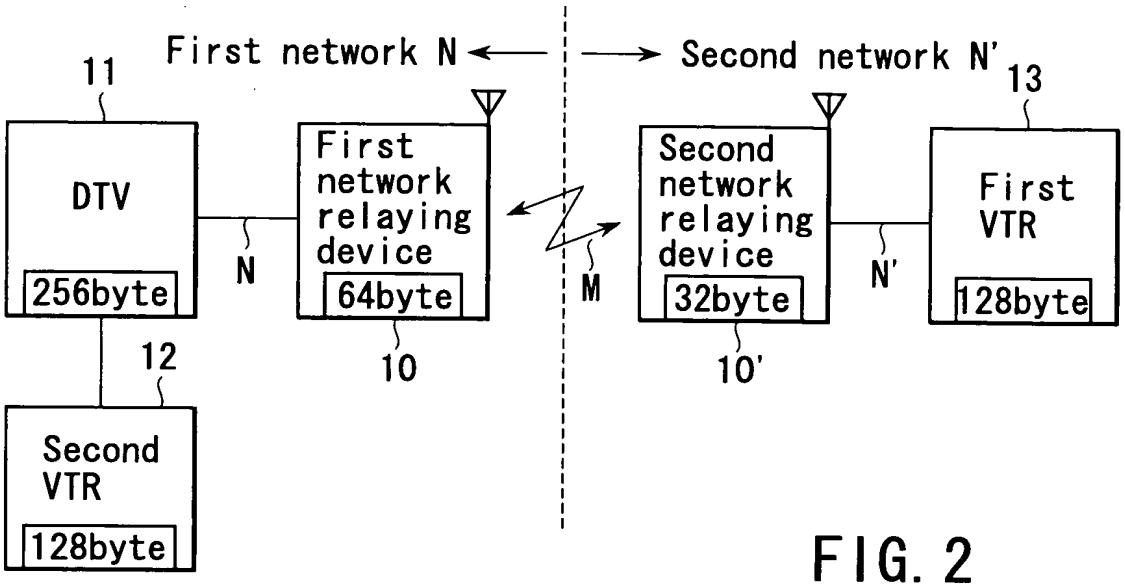

FIG. 2

Associated network	Device	Size
First network	First relayer	64 bytes
First network	DTV	256 bytes
First network	Second VTR	128 bytes
Second network	Second relayer	32 bytes
Second network	First VTR	128 bytes

FIG. 3

Device	Object device		Available size
DTV	Second network	First VTR	32 bytes
Second VTR	Second network	First VTR	32 bytes

FIG. 4

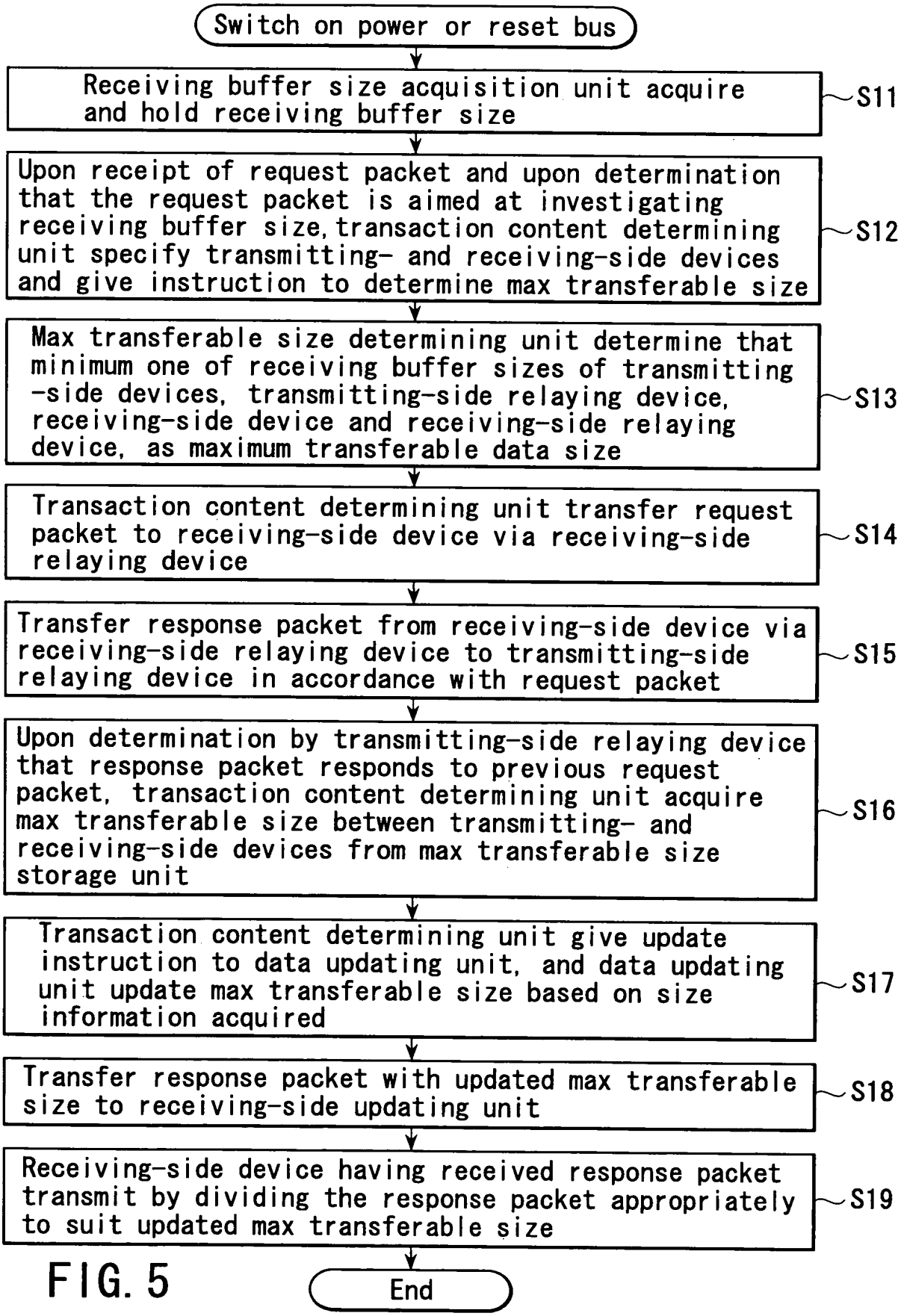
Switch on power or reset bus
Receiving buffer size acquisition unit acquire and hold receiving buffer size
S11
Upon receipt of request packet and upon determination that the request packet is aimed at investigating receiving buffer size, transaction content determining unit specify transmitting- and receiving-side devices and give instruction to determine max transferable size
S12
Max transferable size determining unit determine that minimum one of receiving buffer sizes of transmitting -side devices, transmitting-side relaying device, receiving-side device and receiving-side relaying device, as maximum transferable data size
S13
Transaction content determining unit transfer request packet to receiving-side device via receiving-side relaying device
S14
Transfer response packet from receiving-side device via receiving-side relaying device to transmitting-side relaying device in accordance with request packet
S15
Upon determination by transmitting-side relaying device that response packet responds to previous request packet, transaction content determining unit acquire max transferable size between transmitting- and receiving-side devices from max transferable size storage unit
S16
Transaction content determining unit give update instruction to data updating unit, and data updating unit update max transferable size based on size information acquired
S17
Transfer response packet with updated max transferable size to receiving-side updating unit
S18
Receiving-side device having received response packet transmit by dividing the response packet appropriately to suit updated max transferable size
S19
End

FIG. 5

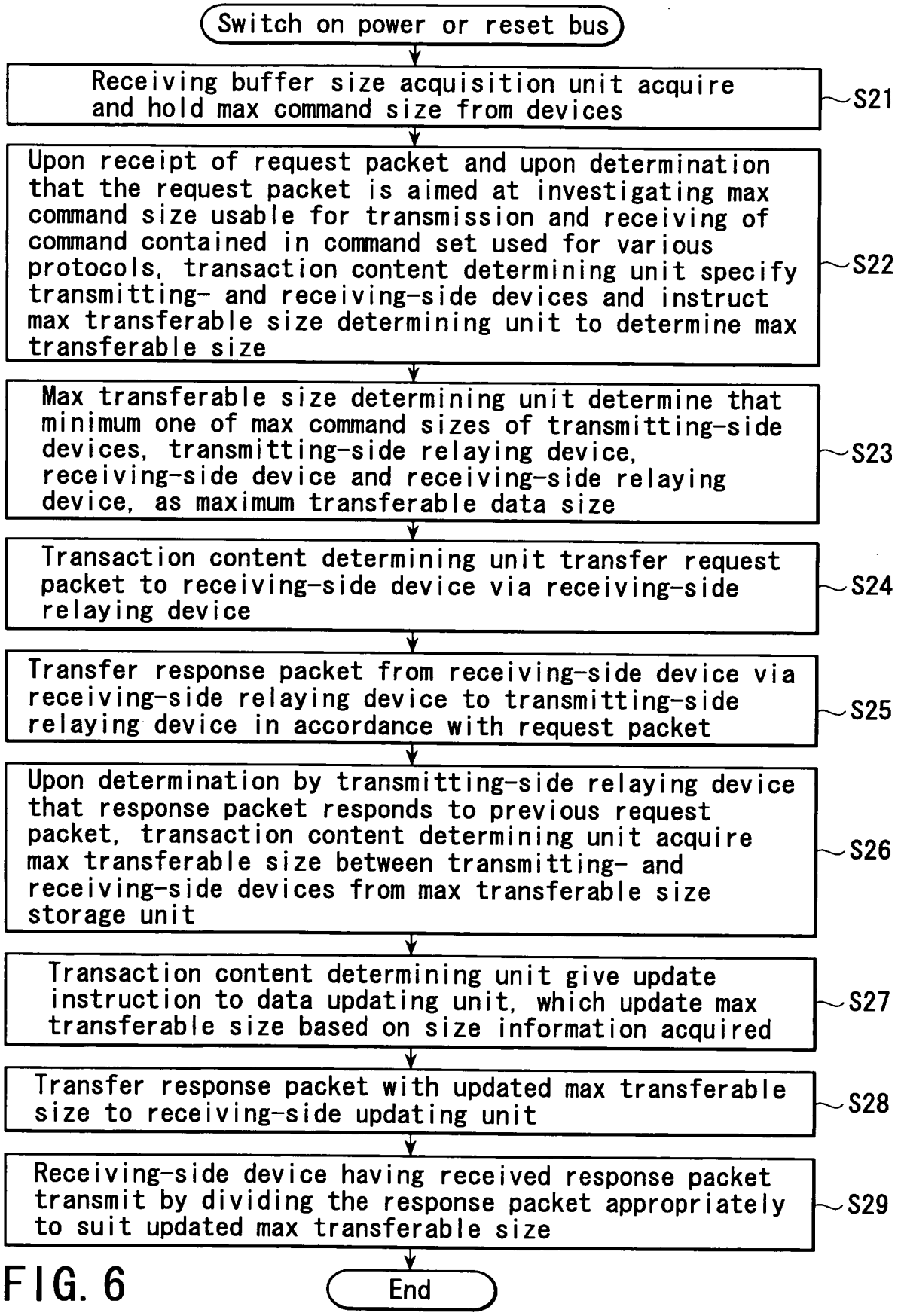
Switch on power or reset bus
Receiving buffer size acquisition unit acquire and hold max command size from devices
S21
Upon receipt of request packet and upon determination that the request packet is aimed at investigating max command size usable for transmission and receiving of command contained in command set used for various protocols, transaction content determining unit specify transmitting- and receiving-side devices and instruct max transferable size determining unit to determine max transferable size
S22
Max transferable size determining unit determine that minimum one of max command sizes of transmitting-side devices, transmitting-side relaying device, receiving-side device and receiving-side relaying device, as maximum transferable data size
S23
Transaction content determining unit transfer request packet to receiving-side device via receiving-side relaying device
S24
Transfer response packet from receiving-side device via receiving-side relaying device to transmitting-side relaying device in accordance with request packet
S25
Upon determination by transmitting-side relaying device that response packet responds to previous request packet, transaction content determining unit acquire max transferable size between transmitting- and receiving-side devices from max transferable size storage unit
S26
Transaction content determining unit give update instruction to data updating unit, which update max transferable size based on size information acquired
S27
Transfer response packet with updated max transferable size to receiving-side updating unit
S28
Receiving-side device having received response packet transmit by dividing the response packet appropriately to suit updated max transferable size
S29
End

FIG. 6

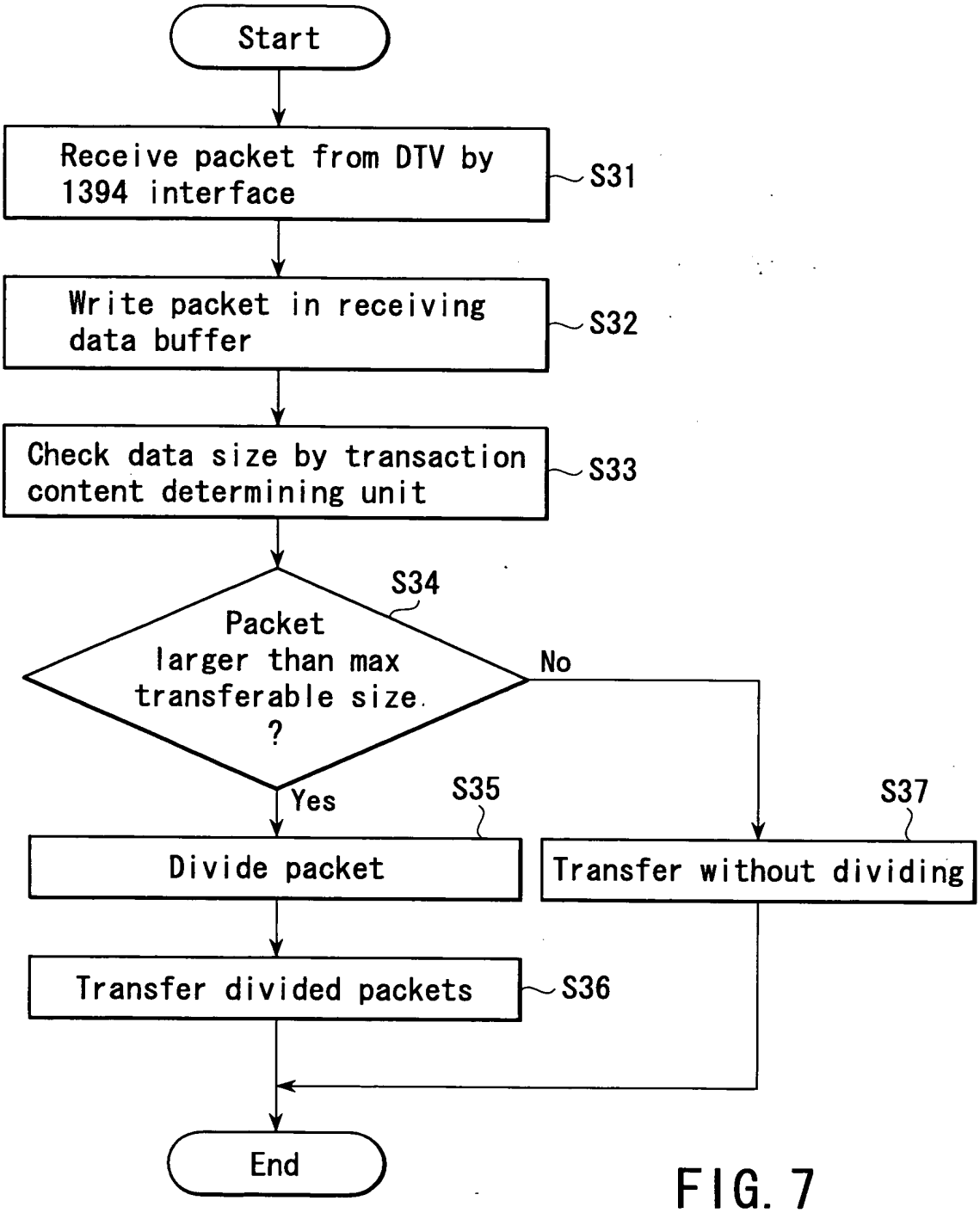
Start
Receive packet from DTV by 1394 interface
S31
Write packet in receiving data buffer
S32
Check data size by transaction content determining unit
S33
S34
Packet larger than max transferable size ?
No
Yes
S35
S37
Divide packet
Transfer without dividing
Transfer divided packets
S36
End

FIG. 7